Integrated Device Technology, Inc.
6024 Silver Creek Valley Road, San Jose, CA - 95138

PRODUCT/PROCESS CHANGE NOTICE (PCN)

PCN #: **A1206-02** Date: August 3, 2012
Product Affected: F1240NBGI & F1240NBGI8 built in VFQFPN-32 (green version)

Date Effective: November 3, 2012

MEANS OF DISTINGUISHING CHANGED DEVICES:
- ■ Product Mark
- ☐ Back Mark
- ☐ Date Code
- ☐ Other

Lot # will have a suffix "Y" to denote Copper bonding wire

Contact: Geoffrey Cortes
Title: Product Quality
Phone #: (408) 284-8321
Fax #: (408) 284-1450
E-mail: Geoffrey.Cortes@idt.com

Attachment: ■ Yes ☐ No

Samples: Availability shown on request

DESCRIPTION AND PURPOSE OF CHANGE:
- ☐ Die Technology
- ☐ Wafer Fabrication Process
- ☐ Assembly Process
- ☐ Equipment
- ■ Material
- ☐ Testing
- ☐ Manufacturing Site
- ☐ Data Sheet
- ☐ Other

This notification is to advise our customers that IDT has successfully completed the qualification of Copper Wire Bonding for VFQFPN-32 package (green version).

There is no change in the moisture sensitivity performance of the package.

Please refer to Attachment 1 for the qualification summary and material set details.

RELIABILITY/QUALIFICATION SUMMARY:
Qualification has been successfully completed. There is no change in MSL rating.

CUSTOMER ACKNOWLEDGMENT OF RECEIPT:
IDT records indicate that you require written notification of this change. Please use the acknowledgement below or E-Mail to grant approval or request additional information. If IDT does not receive acknowledgement within 30 days of this notice it will be assumed that this change is acceptable.
IDT reserves the right to ship either version manufactured after the process change effective date until the inventory on the earlier version has been depleted.

Customer: ____________________________ ☐ ***Approval for shipments prior to effective date.***

Name/Date: ____________________________ E-Mail Address: ____________________________

Title: ____________________________ Phone# /Fax# : ____________________________

CUSTOMER COMMENTS:

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IDT ACKNOWLEDGMENT OF RECEIPT:

RECD. BY: ______________________________ DATE: ______________________

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PRODUCT/PROCESS CHANGE NOTICE (PCN)

ATTACHMENT 1 - PCN # : A1206-02

PCN Type: Gold Wire to Copper Wire

Data Sheet Change: N/A

Detail Of Change:

This notification is to advise our customers that IDT has successfully completed the qualification of Copper Wire Bonding for VFQFPN-32 package (green version).

There is no change in the moisture sensitivity performance of the package.

The table below is showing the comparison between the existing and new assembly material set.

	Existing	New
Assembly Site	ATK - Amkor, Korea	No Change
Die Attach	CRM1085A	No Change
Bonding Wire	Gold (Au)	Copper (Cu)
Mold Compound	EME G700	No Change

Copper wire bonding process is presently used by selective semiconductor suppliers due to the following key advantages:

a. Better electrical performance- higher current handling capability.
b. Better high temperature bake performance. Minimal intermettalic compound build up.
c. Higher Ball shear and wire pull test result- smaller bond pad real estate is now possible.
d. Stiffer Wire- minimize wire swaying, longer wires than gold is now possible.

Customers may expect to receive shipments of product with Cu wire bonding no sooner than 90 days from the date of this notification, August 3, 2012. Product assembled with Au and Cu wire will be shipped during the transition period or until the Au wire inventory has been depleted. Please note that product assembled with Au and Cu wire will not be mixed in one tray stack, or tape and reel.

We request you to acknowledge receipt of this notification within 30 days of the date of this PCN notification. If you require samples to conduct evaluations, please contact your local sales representative to acknowledge this PCN and request samples.

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ATTACHMENT 1 - PCN # : A1206-02

Qualification Information and Qualification Data:

Affected Packages: VFQFPN-32 (Green)

Assembly Material: There is no change in mold compound and die attach materials. The material set used in assembly is in compliance with RoHS 6 (green products) requirement. There is no change in the moisture sensitivity performance.

Qual Plan & Results: The qualification was performed in accordance with JEDEC47 recommended tests

Qualification Vehicle: IDT Part# F1240 (VFQFPN-32)

Test Description	Test Method	Lot 1	Lot 2	Lot 3
		Rej / SS	Rej / SS	Rej / SS
[1] HAST - biased (130 °C/85% RH, 96 Hrs)	JESD22-A110	0 / 25	0 / 25	0 / 25
[1] Temperature Cycling (-55°C to 125°C, 700 cycles)	JESD22-A104	0 / 25	0 / 25	0 / 25
High Temperature Storage Test (150°C, 1000 hours)	JESD22-A103	0 / 25	0 / 25	0 / 25
Ball Shear Test	JESD22-B116	0 / 5	0 / 5	0 / 5
Bond Pull Test	MIL-STD-883, M 2011	0 / 5	0 / 5	0 / 5
X-ray Examination	MIL-STD-883, M 2015	0 / 45	0 / 45	0 / 45

Notes: 1. HAST and Temperature Cycle were subjected to Preconditioning per JESD22-A113 for MSL 1.

Product Electrical Characterization:
Product electrical characterization has been successfully completed on the representative product in the family and copper wire performance was comparable to gold wire performance.